STEM Vocabulary P's and Q's

Training Starter Template

Objectives: All participants in the training will be able to:

- Explain when they can work STEM vocabulary into their daily program
- List questions related to a basic framework for inquiry or scientific processes
- Create a target words-to-use list

Total Amount of Time: _____ **Number of Participants**: _____

Preparation: _____ **Materials**: _____

_____ _____

_____ _____

_____ _____

_____ _____

Training Opening

- Engage Participants _____ minutes

(Ice breaker/warm up activity related to the topic)

_____

_____

_____

- Introduce the Topic _____ minutes

(Motivate participants, show them why the topic is important, share objectives & agenda)

_____

_____

_____

Training Middle _____ minutes

(Explain the topic in detail, demonstrate the concept and discuss it, and practice and apply the topic)

- Explain that words and phrases of math and science can be part of day-to-day activities. Emphasize that vocabulary building is ongoing, with children learning words and phrases in the context of doing many different things.
- Ask participants to think of a time block or activity in the program. Brainstorm a list of words and phrases related to STEM. In pairs, create lists of words participants can work into daily time with children and youth.
- Distribute STEM Vocabulary Builder P's and Q's. Look at the second section, Talking Math. Compare examples to the lists participants created.
- Discuss whether this seems doable, questions, and any new ideas or pointers.

STEM Vocabulary P's and Q's

- Explain that science vocabulary should also be used and reinforced in activities and projects. Ask participants what 'science' is to them, and the 'scientific process.'
- Explain that science and scientific process are about figuring things out, and being systematic about it. It involves learning to ask questions, coming up with possible explanations or answers (hypotheses), and investigating or testing to see if the hypotheses are correct (through observation, experiments, and other methods). In science people keep records of information and findings, analyze it, come up with conclusions, and explain.
- Review the Talking Science handout. Explain that in afterschool, staff can focus on curiosity, and the exciting processes of experience, observation, exploration, and investigation.
- Look at the activity example on the handout (a walk in the woods). In pairs, select another activity or project, and draft questions for different parts of scientific thinking.
- Share examples.

Training Wrap Up and Closing

- Summarize, consolidate _____ minutes

(Connect back to the objectives, check for understanding, and discuss questions)

_____

_____

_____

- Plan Next Steps _____ minutes

(Be specific about application to immediate practice.)

_____

_____

_____

- Closing Comments _____ minutes

(Acknowledge, motivate and inspire)

_____

_____

_____

Post-training assessment and revision

- Formal or informal assessment of effectiveness of training
- Note changes to make
- Note areas for additional training